TEHNOLOGIA DE EXECUTIE A INFRASTRUCTURILOR

I. IN INCHIDEREA DE LINIE PENTRU INTRODUCEREA PODURILOR PROVIZORII
– se executa sapaturile pana la cota –1,50 pe zona platformei podului provizoriu G12 si fundatiilor provizorii aferente;
– se realizeaza incintele de paplanse in vederea executiei grupilor de fundatii;
– se monteaza cu macaraua feroviara podurile provizorii tip G12;
– se repune sub tensiune linia de contact si se redeschide circulatia cu restrictie de viteza de 5 km/h si se tin sub observatie podurile provizorii tip G12 pe toata durata pastrarii in cale, cu remedierea eventualelor defecte si aducerea lor in limita admisa de tolerante.

II. SUB CIRCULATIE, CU RESTRICTIE DE VITEZA DE 5km/h
– se executa sapaturile in incintele de paplanse pana la cota –2,00 si se monteaza cadrele metalice din planul I ;
– se executa sapaturile in incintele de paplanse pana la cota –4,00 si se monteaza cadrele metalice din planul II ;
– se executa sapaturile in incintele de paplanse pana la cota –7,40 si se monteaza cadrele metalice din planul III ;

III. SUB CIRCULATIE, CU RESTRICTIE DE VITEZA DE 5km/h
– se executa blocul de fundatie din beton C20/25;
– se executa umplutura intre blocul de fundatie si incinta de paplanse;
– se monteaza la partea superioara dulapi de lemn 15X25cm intre blocul de fundatie si incinta de paplanse si se fixeaza cu pene de lemn intre dulapi si paplanse;
– dupa 7 zile de la executia blocului de fundatie, se demonteaza cadrele metalice din planul II ;

IV. SUB CIRCULATIE, CU RESTRICTIE DE VITEZA DE 5km/h
– se executa elevatia culeelor pana la cota inferioara a banchetei cuzinetilor ;
– se demonteaza dulapii de lemn 15X25cm dintre blocul de fundatie si incinta de paplanse;
– se executa umplutura intre elevatie si incinta de paplanse;
– dupa 7 zile de la executiala elevatiei se demonteaza cadrele metalice din planul I ;

V. SUB CIRCULATIE, CU RESTRICTIE DE VITEZA DE 5km/h
– se executa bancheta cuzinetilor din beton armat C25/30 ;

VI. IN INCHIDEREA DE LINIE PE LINIA I
– se scot din cale podurile provizorii G12 si fundatiile provizorii aferente de pe linia I;
– se extrag paplansele din zona liniei I;
– se executa tablierul nou in amplasamentul definitiv pe linia I ;

VII. IN INCHIDEREA DE LINIE PE LINIA II
– se scot din cale podurile provizorii G12 si fundatiile provizorii aferente de pe linia II;
– se extrag paplansele din zona liniei II;
– se executa tablierul nou in amplasamentul definitiv pe linia II ;

NOTE:
1. Filatele pe ambele directii din planul II sunt prevazute cu rigidizori pentru a putea preluа impingerile transmise de spraituri;
2. Toate filatele vor fi rigidizate cu incinta de paplanse prin cordon de sudura;
3. Toate spraturile vor fi rigidizate cu filatele prin cordon de sudura;

TECHNOLOGY EXECUTION OF INFRASTRUCTURE

I. DURING CLOSING THE LINE TO INTRODUCE THE TEMPORARY BRIDGES G12
– executing the diggings down to quota –1,50 on the platform zone of the G12 temporary bridges and on the afferent provisory foundations;
– realising the sheeting piles precinct in order to make the bottom holes;
– placing the temporary bridges G12 type with the railway crane;
– setting back the contact wire and re-opening traffic with traffic speed restriction of 5 km/h and keeping under observation the temporary bridges G12 during the entire operation period, by remedying and bringing the eventual deficiencies to the limit allowed by tolerances;

II. UNDER TRAFFIC WITH SPEED RESTRICTION OF 5km/h
– executing the diggings down to quota –2,00 and mounting the metallic frames from I plan;
– executing the diggings down to quota –4,00 and mounting the metallic frames from II plan;
– executing the diggings down to quota –7,40 and mounting the metallic frames from III plan;

III. UNDER TRAFFIC WITH SPEED RESTRICTION OF 5km/h
– executing the foundation block of C20/25 concrete;
– executing the filling between the foundation block and sheeting piles precinct;
– mounting at the upper part wooden boards 15X25cm between the foundation block and sheeting piles precinct and fixing it with wooden fixing wedges between boards and sheeting piles;
– dismounting the metallic frames from II plan after 7 days from concreting the foundation block;

IV. UNDER TRAFFIC WITH SPEED RESTRICTION OF 5km/h
– executing the abutment elevations up to the lower quota of the cushions bench;
– dismounting the wooden boards 15X25cm between the foundation block and sheeting piles precinct;
– executing the filling between elevation and sheeting piles precinct;
– dismounting the metallic frames from I plan after 7 days from concreting the foundation block;

V. UNDER TRAFFIC WITH SPEED RESTRICTION OF 5km/h
– executing the cushions bench of reinforced concrete C25/30;

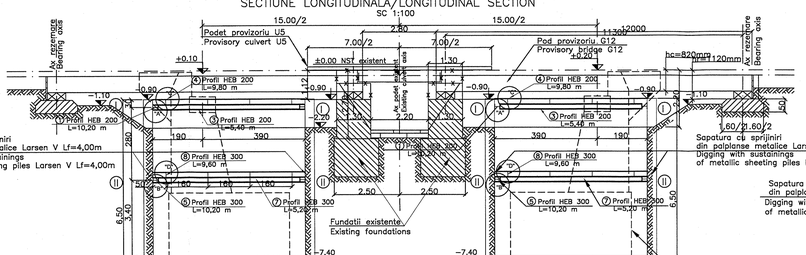
VI. CLOSING TRAFFIC ON TRACK I
– taking out of track the temporary bridges G12 and the afferent provisory foundations from track I;
– taking out sheeting piles from track I zone;
– executing the new deck in final emplacement on track I;

VII. CLOSING TRAFFIC ON TRACK II
– taking out of track the temporary bridges G12 and the afferent provisory foundations from track II;
– taking out sheeting piles from track II zone;
– executing the new deck in final emplacement on track II ;

NOTE:
1. Wooden packing lath on both direction from II plan have strengthenings in order to take up the pushing forces transmitted by the spurs;
2. All wooden packing lath should be strengthened with the sheeting piles precinct by welding seam;
3. All spurs should be strengthened with the wooden packing lath by welding seam;

SECTIUNE LONGITUDINALA/LONGITUDINAL SECTION

SC 1:100



PROCES TEHNOLOGIC:
FAZA I INTRODUCERE PODURI PROVIZORII G12 PE LINIA I;

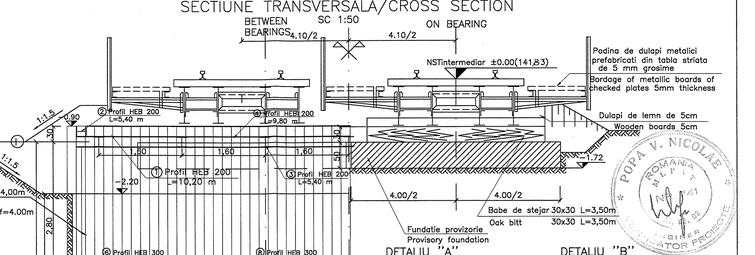
1. Sub circulatie cu viteza normala pe linia II, si in inchideri succesive de linie (in pauzele de circulatie) pe linia I:
– se executa lucrari de protectie si/sau deviere instalatii semnalizare si telecomunicatii;
– se realizeaza 3 panouri tampon de cate 20 m lungime fiecare si se detensioneaza calea pe cca 200 ml de o parte si de alta a panourilor tampon, pe linia I;
2. Sub circulatie cu viteza normala pe linia II, si in inchidere de linie pe linia I:
– se scoate de sub tensiune firul de contact de la firul I;
– se dezafecteaza calea pe 30 m lungime prin scoaterea din cale a panoului central din dreptul podetului, de pe linia I;
– se ridica niveleta cu +20cm pe linia I, realizindu–se un palier de 30m (15m de o parte si de alta a axului podetului), care se va racorda la linia existenta cu o declivitate maxima de 5‰ (pe aproximativ 50m).
– se executeste sina tip 60 cu cupoane de sina de racordare 60/49, pe panourile tampon ramase pe linia I, cu panouri de racordare 49/65 la ambele capete, pe o lungime de cca. 70m pe traverse din lemn;
– se executa sapaturile (pana la cota –1,10) pentru platforma pe care se vor amplasa podurile provizorii G12 pe firul I;
3. In inchidere de linie pe linia I si in inchideri de linie succesive circulatie de linie (in pauzele de circulatie) pe linia II:
– se demonteaza tablierul metalic existent pe linia I;
– se realizeaza incintele de paplanse pentru realizarea fundatiilor sub linia I;
– se demoleaza partea superioara a culeelor podetului existent aferente firului I, pana la cota –0,90 de la NST;
– se executa sapaturile pentru fundatiile podurilor provizorii G12;
– se monteaza fundatiile prefabricate ale podurilor provizorii G12 pe linia I;
– se introduc in cale cu macaraua cf podurile provizorii G12, pe linia I;
– in amplasamentul podetului existent se introduce un podet provizoriu tip U5 rezemat pe cele doua poduri provizorii tip G12 cale sus;
– se executa lucrarile de protectie catodica a podurilor provizorii de pe linia I;
– se repune sub tensiune firul de contact, se redeschide circulatia pe linia I, cu restrictie de viteza 30 km/h, in trepte de viteza de 5 km/h in primele 24 ore, (conform instructiilor cf in vigoare) si se tin sub observatie podurile provizorii G12 de pe linia I pe toata durata de exploatare in cale, cu remedierea eventualelor defecte si aducerea lor in limita admisa de tolerante.
FAZA II INTRODUCERE PODURI PROVIZORII G12 PE LINIA II
1. identic cu FAZA I dar pe linia II.
FAZA III LUCRARI EXECUTATE LA POD, SUB PROTECTIA PODURILOR PROVIZORII G12;
1. Sub circulatie cu restrictie de viteza de 15Km/h pe ambele linii (la adapostul celor 4 poduri provizorii tip G12 si a celor 2 podete provizorii tip U5).
– se executa sapatura pentru noile culei, cu sprijiniri din paplanse metalice;
– se executa culeile, pana la nivelul banchetei cuzinetilor, si zidurile intoarse;
FAZA IV – Lucrarile de pod se vor executa in acelasi timp cu lucrarile de ridicare a niveletei, pe fiecare linie in parte.
FAZA V – Lucrari ce se executa in albie (sub circulatie).

TECHNOLOGICAL PROCCESS:

PHASE I PLACING THE TEMPORARY BRIDGES G12 ON TRACK I;
1. Under normal speed traffic on track II, and successive closings (in traffic gaps) on track I:
– executing the protection and/or deviation works of signaling and telecommunication installation;
– executing 3 buffer panels of 30 m length each and de–tensioning the track on approx. 200 ml on both sides of the buffer panels, on track I;
2. Under normal traffic on track II, and line closing on track I:
– cutting out of voltage the contact wire on track I;
– dismantling the track on 30 m length by taking out the central buffer panels located in front of the culvert, on track I;
– elevating the line level with +20cm on track I, realising a 30cm alignement (15m on each other side of the bridge axis), which shall be connected to the existing line with a maximum declivity of 5‰ (on aprox. 50m).
– replacing the rail type 60 with closure rails 60/49 type, on the connection panels remained on track I, with panels 49/65 at both ends, on aprox. 70m length on wooden sleepers;
– executing the excavations (down to level –1.10) for the platform of temporary bridges G12 that will be placed on track II;
3. Closing traffic on track I and successive closings (in traffic gaps) on track II;
– dismantling the existing deck of rails on track I;
– executing the sheeting piles precinct to realise the abutments foundation under track I;
– demolishing the upper part of the existing abutments afferent to track I, down to the level –0,90 from NST;
– executing the excavations for the temporary bridges G12 foundations which will be placed on track I;
– mounting the prefabricated foundations of the temporary bridges G12 on track I;
– placing the temporary bridges G12 by using the railway crane, on track I;
– in the existing culvert emplacement a provisory culvert U5 type is placed, which is bearing on both temporary bridges G12 upper track;
– executing the protection works to the rail on the temporary bridges G12 on track I;
– reopening the traffic on track I with 30 km/h speed restriction, on 5 km/h trains (acc. to the instructions in force) and keeping under observation the temporary bridges G12 during the entire operation period, by remedying and bringing the eventual deficiencies to the limit allowed by tolerances;
PHASE II PLACING THE TEMPORARY BRIDGE ON TRACK II;
1. identically with PHASE I, but on the other track II.
PHASE III WORKS EXECUTED ON BRIDGE, UNDER PROTECTION OF G12 TEMPORARY BRIDGES;
3. Under traffic speed restriction of 15Km/h on both tracks (under protection of 4 temporary bridges G12 type and of the 2 temporary culverts U5 type).
– executing the digging for the new abutments, with metallic sheeting piles sustainings;
– abutments execution up to the level of cushions bench and executing the inverted walls;
PHASE IV – Bridge works shall be executed in the same time with track elevation works, on eack track.
PHASE V – Works executed in riverbed (under traffic).

SECTIUNE TRANSVERSALA/CROSS SECTION

BETWEEN BEARINGS 4.10/2 SC 1:50 4.10/2 ON BEARING



MASURATOARE MATERIAL METALIC PT. 2 BUC. CULEI
NECCESSARY METALLIC MATERIAL FOR 2 ABUTMENTS

POZ.	DENUMIREA PIESEI DESCRIPTION	PCS.	SECTIUNE SECTION (mm)	LUNGIME LENGTH (mm)	GREUTATI WEIGHTS kg/m	kg/buc	0,37–2n
1	FILATA HEB 200	4		10200	61,30	625,26	2.501,04
2	FILATA HEB 200	4		5400	61,30	331,02	1.324,08
3	Sprelt HEB 200	14		5400	61,30	331,02	4.634,28
4	Sprelt HEB 200	8		9800	61,30	600,74	4.805,92
	GUSEU a	88	170x15	200	23,55	4,68	309,04
5	FILATA HEB 300	4		10200	117,0	1193,40	4.773,60
6	FILATA HEB 300	4		5400	117,0	631,80	2.527,20
7	Sprelt HEB 300	14		5400	117,0	631,80	8.846,20
8	Sprelt HEB 300	8		9800	117,0	1146,60	9.172,80
	GUSEU b	88	262x20	300	47,10	12,34	1085,94
TOTAL PE TIPURI DE OTEL/WEIGHTS ON STEEL TYPES (kg)							40.030,00
Suduri+cupoane pentru completori/Welding (5% (kg)							2.002,00
TOTAL PE TIPURI DE OTEL/WEIGHTS ON STEEL TYPES (kg)							42.032,00

B			
A			
Date / Data	Modificare / Modification / Revision		

BENEFICIARY/ BENEFICIARY : ROMANIAN RAILWAY NATIONAL COMPANY

AUTORITATEA DE IMPLEMENTARE/ IMPLEMENTING AUTHORITY
Ministerul Transportului/ Ministry of Transports

AUTORITATEA CONTRACTANTA/ CONTRACTING AUTHORITY
Ministerul Economiei si Finantelor Oficiul de Plati si Contractare Phare
Ministry of Economy and Finances Phare Payments &Contracting Office

CFCU

Contract / Contract: 3303/2007

Faza / Phase: PTH+DE TF+DO

prointec CONSIS PROIECT

Proiect finanțat de UNIUNEA EUROPEANA
Project financed by EUROPEAN UNION

POS Transport 2007- 2013

Intocmit / Designed: Ing.Nicoleta FLORIAN

Verificat / Checked: Ing. Viorel ALDESCU

Sef echipa / Team leader: Ing. Stelian Vara-Oros

Scara / Scale: 1:50 1:100

Data / Date: 05.2009

PORTOFOLIU DE PROIECTE PHARE CES 2005 / PHARE CES 2005 PROJECTS PORTFOLIO
LOT 1
Asistenta tehnica pentru pregatirea unor lucrari de reabilitare pentru lunetul si podurile de calie ferata
Technical assistance for preparing rehabilitation works required by railway tunnels and bridges

Denumire desen / Drawing Title: Soursala RCF / Railway district IASI, Linia of 500/Railway line 500 Pricesti-Vicsani
POD/ BRIDGE km 290+159
POD/PRI PROVIZORII / PROVISORY BRIDGES

Cod desen / Drawing Code: PT 18

Nr. / No.: 13